CLAIMS

1. A method for detecting signal conditions for a compressed information stream, comprising the steps of:

detecting, within a pre-defined search window, alternate-mode conditions and valid frames within the compressed information stream; and

outputting an indication that a valid signal is detected, when an alternate-mode condition and at least one valid frame are both detected within a same one of the predefined search window.

2. The method of claim 1, further comprising the step of outputting another indication that an invalid signal condition is detected, when at least one of the alternate-mode condition is no longer detected and a valid frame has not been detected for a predetermined time period.

3. The method of claim 2, wherein the invalid signal condition comprises one of a weak signal condition and a no signal condition.

4. The method of claim 2, further comprising the steps of:

detecting errors in the compressed information stream;

detecting alternate mode conditions in the compressed information stream; and

continuously resetting a size of the predefined search window, each time an alternate mode condition is detected without any error, to avoid a false positive indication that the invalid signal condition is detected.

5. The method of claim 1, wherein the compressed information stream is stored in a buffer, and said detecting step comprises the step of determining whether data in the buffer is valid.

6. The method of claim 1, wherein said detecting step comprises the step of determining the compressed information stream has a valid header and time stamp information.

7. The method of claim 1, wherein the compressed information stream comprises an MPEG stream and wherein said detecting step comprises the step of determining whether an MPEG header and MPEG data corresponding to the MPEG stream are valid.

8. The method of claim 7, wherein the MPEG streams are stored in a Packetized Elementary Stream (PES) buffer, and said detecting step comprises the steps of:

determining whether PES data in the PES buffer is valid;

determining whether Packetized Elementary Stream (PES) header and time stamp information corresponding to the MPEG streams are valid; and

determining whether an MPEG header and MPEG data corresponding to the MPEG streams are valid.

9. The method of claim 1, further comprising the steps of:

detecting errors in the compressed information stream;

modifying a weak signal counter, when an error is detected in a given frame of the compressed information stream in a normal mode, the weak signal counter indicating a number of weak signal conditions detected within a given time period;

comparing the weak signal counter to a frame count threshold, the frame count threshold indicating a total number of frames within a given time period; and

outputting another indication that a weak signal condition is detected, when the weak signal counter is greater than the frame count threshold.

10. The method of claim 1, further comprising the steps of:

detecting errors in the compressed information stream;

determining whether the predefined search window has elapsed;

modifying a weak signal counter, when an error is detected in a given frame of the compressed information stream in an alternate mode condition and the predefined search window has elapsed, the weak signal counter indicating a number of weak signal conditions detected within a given time period;

comparing a frame count threshold to the weak signal counter, the frame count threshold indicating a total number of frames within a given time period; and

outputting another indication that a weak signal condition is detected, when the weak signal counter is greater than the frame count threshold.

11. The method of claim 1, wherein the alternate mode condition is presented by flag a trick mode flag.

12. A method for detecting signal conditions for trick mode Motion Picture Experts Group (MPEG) streams, comprising the steps of:

detecting, within a predefined search window, trick mode flags and valid frames within the trick mode MPEG streams; and

outputting an indication that a valid signal is detected, when a trick mode flag and a valid frame are both detected within a same one of the predefined search window.

13. The method of claim 12, further comprising the step of outputting another indication that one of a weak signal condition and a no signal condition is detected, when at least one of the trick mode flag is no longer detected and the valid frame has not been detected for a predetermined time period.

14. An apparatus for detecting signal conditions for a compressed information stream, comprising:

means for detecting, within a pre-defined search window, alternate-mode conditions and valid frames within the compressed information stream; and

means for outputting an indication that a valid signal is detected, when an alternate-mode condition and at least one valid frame are both detected within a same one of the predefined search window.

15. The apparatus of claim 14, further comprising means for outputting another indication that an invalid signal condition is detected, when at least one of the alternate-mode condition is no longer detected and a valid frame, including the at least one valid frame, has not been detected for a predetermined time period.

16. The apparatus of claim 15, wherein the invalid signal condition comprises one of a weak signal condition and a no signal condition.

17. The apparatus of claim 15, further comprising:

means for detecting errors in the compressed information stream;

means for detecting alternate modes of the compressed information stream; and

means for continuously resetting a size of the predefined search window, each time an alternate mode condition of the compressed information stream is detected without any error, to avoid a false positive indication that the invalid signal condition is detected.

18. The apparatus of claim 14, wherein the compressed information stream is stored in a buffer, and said means for detecting comprises means for determining whether data in the buffer is valid.

19. The apparatus of claim 14, wherein said means for detecting comprises means for determining whether the compressed information stream contains valid header and time stamp information.

20. The apparatus of claim 14, wherein said means for detecting comprises means for determining whether a header and data corresponding to the compressed information stream are valid.

21. The apparatus of claim 14, wherein the compressed information stream is stored in a buffer, and said means for detecting comprises:

means for determining whether data in the buffer is valid;

means for determining whether header and time stamp information corresponding to the compressed information stream are valid; and

means for determining whether an header and data corresponding to the compressed information stream are valid.

22. The apparatus of claim 14, further comprising:

means for detecting errors in the compressed information stream;

means for modifying a weak signal counter, when an error is detected in a given frame of the compressed information stream in a normal mode, the weak signal counter indicating a number of weak signal conditions detected within a given time period;

means for comparing the weak signal counter to a frame count threshold, the frame count threshold indicating a total number of frames within a given time period; and

means for outputting another indication that a weak signal condition is detected, when the weak signal counter is greater than the frame count threshold.

23. The apparatus of claim 14, further comprising:

means for detecting errors in the compressed information stream;

means for determining whether the predefined search window has elapsed;

means for modifying a weak signal counter, when an error is detected in a given frame of the compressed information in an alternate mode condition and the

predefined search window has elapsed, the weak signal counter indicating a number of weak signal conditions detected within a given time period;

means for comparing a frame count threshold to the weak signal counter, the frame count threshold indicating a total number of frames within a given time period; and

means for outputting another indication that a weak signal condition is detected, when the weak signal counter is greater than the frame count threshold.

24. The apparatus of claim 14, wherein the alternate mode condition is represented by a trick mode flag.